Hanford Federal Facility Agreement and Consent Order
(Tri-Party Agreement)

Proposed Tri-Party Agreement Modifications and Reference Documents for

Overall Strategy and Approach for Groundwater Protection, Monitoring and Remediation (M-024)

Public Comment Period
September 29 to November 13, 2003

Tri-Party Agreement
U. S. Department of Energy
U.S. Environmental Protection Agency
Washington State Department of Ecology

Hanford Federal Facility Agreement and Consent Order (Tri-Party Agreement)
Proposed Modifications and Reference Documents for

Overall Strategy and Approach for Groundwater Protection, Monitoring and Remediation

(M-024)

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Tri-Party Agreement

Groundwater Well-Drilling Milestone Changes

Public Comment - September 29 to November 13

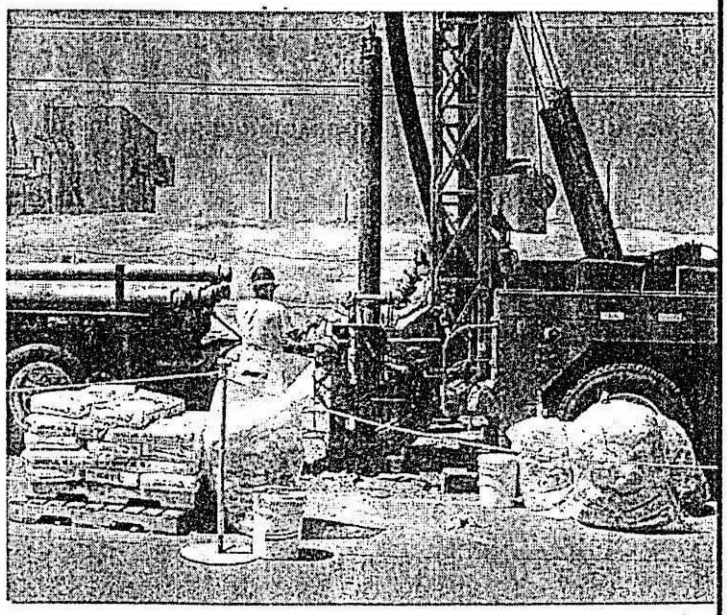
The U.S. Department of Energy (USDOE), Washington State Department of Ecology (Ecology), and U.S. Environmental Protection Agency (EPA) - the Tri-Party Agreement (TPA) agencies- want your input on an integrated approach and schedule to groundwater monitoring-well installation at Hanford.

Currently, Tri-Party milestone 24 (M-24) only addresses Resource Conservation and Recovery Act (RCRA) groundwater monitoring requirements. It does not address an integrated strategy and approach for overall protection, monitoring, and remediation of groundwater on the Hanford Site in southeastern Washington State.

In recent years, changes in groundwater flow and a declining water table in some areas have resulted in a need for new wells to be installed. The new wells will be used to:

- determine the nature and extent of existing groundwater contamination
- conduct and assess the effectiveness of groundwater remediation and cleanup
- provide subsurface access for geohydrologic characterization.

The proposed changes to M-24 call for USDOE to install RCRA and Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) groundwater monitoring, assessment, and remediation wells at a minimum of 15 new wells by December 2003, and an additional 15 wells each year until a total of 60 wells are installed by December 2006. These wells will also be used to satisfy Atomic Energy Act (AEA) requirements at USDOE's discretion. USDOE will continue to install wells until the TPA agencies agree that sufficient groundwater wells are in place to comply with RCRA and CERCLA requirements



Hanford monitoring well construction.

Impact of Changes:
These changes will enable the TPA agencies to obtain information that will allow them to do a better job of protecting groundwater and determining priorities for cleanup.

For the first time it will allow RCRA, CERCLA and AEA requirements to be incorporated into an overall strategy for groundwater protection, monitoring, and remediation.

Drilling wastes will be properly and safely disposed of in the Hanford Environmental Restoration Disposal Facility (ERDF) based on existing ERDF disposal requirements.

View the change package at http://www.hanford.gov/tpa/changelist.htm or contact the Hanford Cleanup line at 800-321-2808, to request a hard copy.

Hard copies are also available for review at the public information repositories listed on the next page.

Please contact one of the Hanford Public Information Repositories listed below to view a complete copy of the M-24 change package.

RICHLAND:
Consolidated Information Center - Room 101-L
2770 University Drive
WSU Tri-Cities
Telephone: (509) 372-7443
Contact: Janice Parthree
Email: reading_room@pnl.gov

SEATTLE:
Suzzallo Library
Government Publications Room
University of Washington
Telephone: (206) 543-4664
Contact: Eleanor Chase
Email: echase@u.washington.edu

PORTLAND:
Branford Price Millar Library
934 Southwest Harrison
Portland State University
Telephone: (503) 725-3690
Contact: Michael Bowman
Email: bowman@lib.pdx.edu

SPOKANE:
Foley Center
East 502 Boone
Gonzaga University
Telephone: (509) 323-3839
Contact: Connie Scarppelli
Email: carter@its.gonzaga.edu

Tri-Party Agreement

Comments must be recieved by close of business on November 13, 2003. The agencies will consider all comments before proposed changes are made final. There are no public meetings planned at this time; however the agencies will consider requests for a meeting.

Written comments may be submitted by mail or email to the addresses below.

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Fact Sheet
Dept. of Energy
PO Box 550 MSIN A7-75
Richland, WA 99352

Tentative Agreement on Hanford Federal Facility Agreement and Consent Order
(Tri-Party Agreement)
Negotiations on the Overall Strategy and Approach for
Hanford Groundwater Protection, Monitoring and Remediation
(Tri-Party Agreement Milestone Series M-024)

The U.S. Department of Energy, Richland Operations Office (RL), the State of Washington Department of Ecology, and the U.S. Environmental Protection Agency (EPA), hereinafter referred to as the parties, have concluded negotiations on an overall strategy and approach for Hanford groundwater protection, monitoring, and remediation under Tri-Party Agreement Milestone Series M-024. This Tri-Party Agreement change package was developed and found mutually agreeable to the parties.

It is the parties' intent to submit the proposed change packages for a 45-day public comment period. A response-to-comments document will be prepared addressing public comments. When finalized, the Tri-Party Agreement change packages will be modified, as necessary and approved. The approved Tri-Party Agreement change package and response-to-comments document will be issued and the changes incorporated into the Tri-Party Agreement.

Signed this 18th day of September 2003.

Keith A. Klein, Manager
U.S. Department of Energy (for)
Richland Operations Office

Tom C. Fitzsimmons, Director
State of Washington Department of
Ecology

L. John Iani, Regional Administrator
Region 10
U.S. Environmental Protection Agency

Change Number	Federal Facility Agreement and Consent Order Change Control Form Do not use blue ink. Type or print using black ink.	Date:
M-24-02-02		August 20, 2003

Originator: Mike Thompson/Ellen Mattlin, RL	**Phone:** 373-0750/376-2385

Class of Change:

[X] I - Signatories	[ ] II - Executive Manager	[ ] III - Project Manager

Change Title:

Overall Strategy and Approach for Groundwater Protection, Monitoring and Remediation under Tri-Party Agreement Milestone Series M-024

Description/Justification of Change:

The existing Tri-Party Agreement Milestone Series M-024 addresses RCRA needs only and does not address an overall well integrated strategy and approach for groundwater protection, monitoring and remediation. The current M-024 milestone series commits DOE to drill up to 50 RCRA wells per year but does not address drilling of wells to determine the nature and extent of existing groundwater contamination; to conduct and assess the effectiveness of groundwater remediation; or, to provide subsurface access for geohydrologic characterization.

The circumstances that drive the design of the groundwater monitoring network have changed since the M-024 milestone was emplaced. At the milestone's inception, the requirement was to bring the various treatment, storage and disposal (TSD's) units on the Hanford Site into compliance as quickly as possible. Identification of well locations at that time was a relatively straightforward exercise. In mid-1990, a declining water table necessitated the replacement of some wells, and changing groundwater flow paths and distinguishing contaminant sources at the SST's WMAs complicated the decision on the number and placement of monitoring wells. Groundwater-flow direction perturbation has also resulted from the pump and treat operations. As a result, the replacement and addition of a number of wells have been necessary.

This milestone does not preclude or foreclose the imposition of additional groundwater well installations pursuant to RCRA and/or CERCLA permits or work plans.

Approximately 300 RCRA monitoring wells have been drilled at Hanford since 1985 for the primary purpose of detecting contaminant migration from RCRA TSD units. However, there continues to be a need for additional RCRA monitoring wells. Declining water levels and changing groundwater flow directions in the 200 Area Plateau have left wells dry and require the replacement of existing detection RCRA monitoring wells to comply with regulatory requirements for compliant number and location of wells. In addition, most of the SST RCRA WMA's have gone into RCRA groundwater quality assessment under 40 CFR 265 Subpart F, requiring additional assessment wells.

NOTE: Description/Justification of Change is continued on pages 2 – 4.

Impact of Change:

RCRA, CERCLA and AEA requirements incorporated into an overall strategy for groundwater protection, monitoring and remediation. This change package modifies Tri-Party Agreement Major Milestone M-024-00O, adds Tri-Party Agreement Interim Milestone M-024-57, and deletes Tri-Party Agreement Major Milestones M-024-00P and beyond.

Affected Documents:

The Tri-Party Agreement as amended and Hanford Site internal planning, management, and budget documents (e.g., USDOE and USDOE contractor Baseline Change Control documents; Multi-Year Work Plan; Sitewide Systems Engineering Control Documents; Project Management Plans, and, if appropriate, LDR Report requirements).

Approvals:

K. A. Klein, RL Manager	Date	____ Approved	____ Disapproved	
R. J. Schepens, ORP Manager	Date	____ Approved	____ Disapproved	
L. J. Iani, EPA Region 10 Administrator	Date	____ Approved	____ Disapproved	
T. C. Fitzsimmons, Ecology Director	Date	____ Approved	____ Disapproved	

Description/Justification of Change (Continued):

Between 1989 and the mid-1990's, groundwater characterization activities occurred to determine the nature and extent of existing groundwater contamination to support the CERCLA and RCRA Past Practice Tri-Party Agreement commitments. Interim response actions were initiated for carbon tetrachloride, uranium and technetium-99 in 200-West Area; remedial actions were initiated in groundwater for various fission products in 200 East Area and subsequently terminated; and, remedial actions were initiated for chromium and strontium-90 in the 100 areas along the Columbia River. The CERCLA Five Year Record of Decision Review, performed in CY 2000 identified the need for more wells to track the existing groundwater contamination plumes and the need to upgrade the existing groundwater pump-and-treat systems, requiring more wells. In addition, wells have been installed to support the In Situ Redox Manipulation remediation of hexavalent chromium in the 100-D Area. Furthermore, additional characterization is required to characterize the vertical distribution of CCl4 in 200 West Area to design replacement(s) for interim pump and treat actions, and that may require additional wells.

Modifications/deletions to existing Tri-Party Agreement milestones are denoted using ~~redline/strikeout~~; new milestones/text are denoted with shading. When approved, Tri-Party Agreement Major Milestones M-024-00P and beyond will be deleted. Tri-Party Agreement Interim Milestone M-024-57 will be modified annually.

Milestone Number	Milestone Title	Due Date
M-024-00O Ecology Lead	~~Install RCRA Groundwater Monitoring Wells at the Rate of 29 in CY 1989, 30 in CY 1990, and up to 50 per year thereafter as specified by agreed Interim Milestones until all land disposal units and single-shell tanks are determined to have RCRA compliant monitoring systems. USDOE will install groundwater monitoring wells around RCRA Land Disposal Units and the single-shell tanks (SST) at the rate described above until Ecology agrees that all such groundwater monitoring systems meet the requirements of WAC 173-303-645. Installation of groundwater wells shall mean that wells have been drilled, adequately sealed, and screened over no more than 15 feet of the aquifer unless otherwise approved by Ecology, that all pumps and associated sampling equipment have been installed, and that such wells have been developed sufficiently to provide satisfactory samples for all parameters to be analyzed. Specific units to receive groundwater wells and the number of wells to be installed at each unit will be identified in Appendix D in two-year intervals (i.e., CY 1989 and CY 1990 now, CY 1990 and CY 1991 at the next annual update, etc.). Such schedules will be enforceable as interim milestones.~~ Complete required well installations in accordance with the RCRA and CERCLA groundwater requirements. The M-024 milestone series will be closed when the parties agree that sufficient RCRA and CERCLA groundwater wells are in place and operating to comply with RCRA and CERCLA requirements for groundwater monitoring, groundwater protection, and groundwater remediation.	~~12/31/2003~~ TBD

M-024-57	Install a minimum of 60 wells (See attached well list). DOE will initiate discussions annually in June using the data quality objective process (DQO) to reaffirm the selected wells and recommend any new well installations needed to maintain a three-year rolling prioritized drilling schedule consistent with site-wide clean-up priorities. The Parties will conclude negotiations and revise M-024-57 by August 1 of each year to maintain a four year commitment for well installations. Since all wells are drilled in CERCLA or RCRA Past Practice operable units, the parties agreed that the most effective and efficient method of managing wastes from all Hanford well development drilling would be to dispose of the waste in the Hanford Environmental Restoration Disposal Facility (ERDF). This workscope would be conducted under the M-024 series milestones and will need to meet ERDF disposal requirements through the timely submittal of CERCLA sampling and analysis plans (or revisions to existing CERCLA sampling and analysis plans) for the appropriate operable unit, approved by the assigned lead regulatory agency. The integration and coordination of well drilling under the revised Tri-Party Agreement M-024 milestone series will assure CERCLA needs are incorporated into the overall drilling campaign. In addition, the parties reaffirmed their commitment to Section 5.5 of the Tri-Party Agreement Action Plan, the need to coordinate the application of regulatory requirements, and that past-practice authority may provide the most efficient means for addressing mixed-waste groundwater contamination plumes originating from a combination of TSD and past-practice units. In order to ensure that TSD units within the operable units are brought into compliance with RCRA and State hazardous waste regulations, Ecology intends, subject to part four of the Agreement, that all response or corrective actions, excluding situations where there is an imminent threat to the public health or environment as described in Section 7.2.3, will be conducted in a manner which ensures compliance with the technical requirements of the Hazardous Waste Management Act (HWMA) Chapter 70.105 RCW and implementing regulations. Notwithstanding this operating assumption, Ecology reserves the right to exercise its authority under the HWMA and the Hanford Sitewide RCRA Permit, Condition II.Y to require groundwater response actions consistent with WAC 173-303-645 and/or 173-303-646. The management of purgewater and investigation derived wastes from existing wells and wells under the revised M-024 Tri-Party Agreement milestones will be managed as CERCLA wastes in accordance with a CERCLA decision document or sampling and analysis plan, to be disposed at ERDF as long as the wastes meet ERDF disposal acceptance criteria. DOE shall install the following minimum number of wells in accordance with the priorities identified in the yearly DQO: • a minimum of 15 wells by 12/31/2003 • a cumulative of 30 wells by 12/31/2004 • a cumulative of 45 wells by 12/31/2005; and, • a cumulative of 60 wells by 12/31/2006. (This milestone will continue on a yearly basis until such time that the Parties agree that sufficient RCRA and CERCLA groundwater wells are in place and operating to comply with RCRA and CERCLA requirements for groundwater monitoring, groundwater protection, and groundwater remediation.) Each element of this milestone is considered a distinct work requirement independently subject to the enforcement provisions of the agreement.	Due Dates are as indicated in the descriptive text of this milestone

~~M-024-00P and beyond~~	~~Install RCRA Groundwater Monitoring Wells at the Rate of 29 in CY 1989, 30 in CY 1990, and up to 50 per year thereafter as specified by agreed Interim Milestones until all land disposal units and single-shell tanks are determined to have RCRA compliant monitoring systems. USDOE will install groundwater monitoring wells around RCRA Land Disposal Units and the single-shell tanks (SST) at the rate described above until Ecology agrees that all such groundwater monitoring systems meet the requirements of WAC 173-303-645. Installation of groundwater wells shall mean that wells have been drilled, adequately sealed, and screened over no more than 15 feet of the aquifer unless otherwise approved by Ecology, that all pumps and associated sampling equipment have been installed, and that such wells have been developed sufficiently to provide satisfactory samples for all parameters to be analyzed. Specific units to receive groundwater wells and the number of wells to be installed at each unit will be identified in Appendix D in two-year intervals (i.e., CY 1989 and CY 1990 now, CY 1990 and CY 1991 at the next annual update, etc.). Such schedules will be enforceable as interim milestones.~~	~~12/31/2004and beyond~~

Well Priority List for CY 2003 through 2006
(Column Explanation Is Provided on Page 3

The following list of wells represents the results of data quality objective (DQO) processes and negotiations between the U.S. Department of Energy, Richland Operations, the U.S. Department of Energy Office of River Protection (ORP), the State of Washington, Department of Ecology (Ecology) and the U.S. Environmental Protection Agency (EPA). The list will be used to determine the priority for wells drilled between CY 2003 through CY 2006 under Tri-Party Agreement Interim Milestone M-024-57 and may be amended through yearly discussions. These annual discussions will use the process described in Tri-Party Agreement Change Request M-24-02-02 for wells drilled under Tri-Party Agreement Milestone M-024-57. RL and ORP, through their contractors may drill any of the 60 wells included in Tri-Party Agreement Major Milestone M-024-57 (as amended through the yearly negotiation process described in TPA Change M-24-02-02) in any calendar year, provided the mandated rate of 15 wells/year is maintained through CY 2006. This list will be maintained on a yearly basis and will continue to describe a three-year rolling schedule for planning purposes. Wells drilled from CY 2007 through CY 2009 will be negotiated no later than CY 2006 and will be designated as Tri-Party Agreement Major Milestone M-024-58. The M-024 milestone series will be considered complete when the parties agree that sufficient wells are in place to meet RCRA and CERCLA regulations for groundwater monitoring, groundwater protection and groundwater remediation. Changes to the Well Priority List will be approved at the Project Manager's level.

Column explanations are provided on page 3.

Well Priority	Well Name	Proposed CY of Installation	Program/Facility Name/ Location	Justification/Purpose	Deep Borehole	Comments
1	C-1	2003	RCRA ORP/WMA C SST/north end of WMA perimeter	Site in detection. Upgradient detection/ complete point of compliance (POC) network.		ORP RCRA Detection
2	C-2	2003	RCRA ORP/WMA C SST/southwest of WMA perimeter	Site in detection. Contaminant detection/ complete downgradient POC coverage.		ORP RCRA Detection
3	C-3	2003	RCRA ORP/WMA C SST/south of WMA perimeter	Site in detection. Contaminant detection/ complete downgradient POC coverage.		ORP RCRA Detection
4	C-4	2003	RCRA ORP/WMA C SST/south of WMA perimeter	Site in detection. Contaminant detection/ complete downgradient POC coverage.		ORP RCRA Detection
5	A-1	2003	RCRA ORP/WMA A-AX SST/southeast of WMA perimeter	Site in detection. Contaminant detection/ complete downgradient POC coverage.		ORP RCRA Detection. GPR southeast corner to select location. Results from this well will be evaluated prior to determining need and location for another well.
6	A-2	2003	RCRA ORP/WMA A-AX SST/northwest of WMA perimeter	Site in detection. Upgradient detection/ complete (POC) network.		ORP RCRA Detection

Well Priority	Well Name	Proposed CY of Installation	Program/Facility Name/ Location	Justification/Purpose	Deep Borehole	Comments
7	S10-1	2003	RCRA RL/216-S-10 Ditch/ mid-section of ditch on south side of WMA perimeter	Site in Detection. Opportunity to integrate with CERCLA borehole drilling in FY03		RL Detection (non tank farm)
8	ZP-2	2003	CERCLA/ZP-1 OU	ZP-1 OU Pump and Treat requires replacement for extraction well #4		RL CERCLA
9	ZP-3	2003	CERCLA/ZP-1 OU	ZP-1 OU Pump and Treat requires replacement for extraction well #1		RL CERCLA
10	ZP-1	2003	CERCLA/ZP-1 OU/Z-9 Crib	DNAPL investigation.	X	RL CERCLA
11	KR-1	2003	CERCLA/100-KR-4 OU/River	Chromium extraction/performance monitoring		RL CERCLA
12	KR-2	2003	CERCLA/100KR-4 OU/River	Chromium monitoring well		RL CERCLA
13	HR-1	2003	CERCLA/100 HR-3 OU/River	Chromium monitoring well		RL CERCLA
14	HR-2	2003	CERCLA/100HR-3 OU/River	Chromium monitoring well		RL CERCLA
15	HR-3	2003	CERCLA/100HR-3 OU/River	Chromium monitoring well		RL CERCLA
16	UP-1	2004	CERCLA/200-UP-1 OU/ south of U-17 Crib (K)	Install Well "K" identified on map in Appendix A, DOE/RL-2002-17, Rev. 0.		RL CERCLA
17	S-1	2004	RCRA RL/WMA S-SX/southeast corner, south of 299-W22-46	Site in Assessment. Delineate existing plume(s)/complete assessment network	X	RL RCRA Assessment
18	T-1	2004	RCRA RL/WMA T/deep twin to 299-W11-39, northeast corner of WMA	Site in Assessment. Delineate existing plume(s)/deep characterization	X	RL RCRA Assessment
19	TX-1	2004	RCRA RL/WMA TX-TY/deep twin to 299-W14-13, east of WMA perimeter	Site in Assessment. Delineate existing plume(s)/deep characterization	X	RL RCRA Assessment
20	A-3	2004	RCRA ORP/WMA A-AX SST/west of WMA perimeter	Site in detection. Upgradient detection/ complete (POC) network.		ORP Detection
21	B-1	2004	RCRA ORP/WMA B-BX-BY SST/ south side of 241-BX perimeter	Site in assessment. Contaminant detection/ complete downgradient POC coverage.		ORP Detection
22	B-2	2004	RCRA ORP/WMA B-BX-BY SST/ south side of 241-B perimeter	Site in assessment. Contaminant detection/ complete downgradient POC coverage.		ORP Detection
23	B-3	2004	RCRA ORP/WMA B-BX-BY	Site in assessment. Contaminant		ORP Detection

Well Priority	Well Name	Proposed CY of Installation	Program/Facility Name/ Location	Justification/Purpose	Deep Borehole	Comments
			SST/east side of 241-B perimeter	detection/ complete downgradient POC coverage.		
24	U-1	2004	RCRA ORP/WMA U SST/northeast side of WMA perimeter	Site in assessment. Contaminant detection/ complete downgradient POC coverage.		ORP Detection.
25	U-2	2004	RCRA RL/WMA U/southeast corner, deep twin to 299-W19-41	Site in Assessment. Delineate existing plume(s)/deep characterization	X	RL RCRA Assessment
26-30	ZP-# UP-#	2004	CERCLA/200-ZP-1 and 200-UP-1 locations TBD	Wells identified in Appendix A, DOE/RL-2002-17, Rev. 0.		RL CERCLA
31-41	ZP-# UP-#	2005	CERCLA/200-ZP-1 and 200-UP-1 locations TBD	Wells identified in Appendix A, DOE/RL-2002-17, Rev. 0.		RL CERCLA
42-58	LLBG-1 - 17	Wells 42-45 =2005 Wells 46-58= 2006	RCRA RL/ LLBG/200 West Area LLWMA 3 and 4 perimeter	Seventeen well proposals currently being negotiated as part of LLBG Part-B Permit application. Installation of wells dependent on approval and issuance of Part-B (after 2003)		RL RCRA LLBG (17 proposed locations)

Table Explanation:

Column 1, **Well Priority**, 1-60, is the overall priority in numeric order.
Column 2, **Well Name (temporary)**, is composed of a letter identifying the site (TSD Facility or Operable Unit), followed by a sequential number for identification.
Column 3 is the **proposed calendar year of installation.**
Column 4, **Program/Facility Name/Location**, defines the program (RCRA-ORP, RCRA-RL or CERCLA), the facility name, and a general location.
Column 5, **Justification/Purpose**, provides the justification and purpose of the well. Note that completing a network assumes no significant change in water table elevation and direction of groundwater flow. Details of the rationale and construction are found in the supporting DQO documents. Wells 59 and 60 are reserved for 200-BP-05 and/or BC Crib monitoring., subject to affirmation through a future DQO process